



EXPRESS MAIL NO. *EU 365 480 397 US*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/602,442 Confirmation No. 9418
For: DIVIDED-VOLTAGE FET POWER AMPLIFIERS
Applicants: Barry A. Lautzenhiser et al.
Filed: June 24, 2003
TC/A.U.: 2817
Examiner: Henry Choe
Docket No.: 203-11CON

MS Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

AMENDMENT OF DRAWINGS

Sir:

Applicants herein submit minor corrections to the drawings in accordance with the provisions of 37 CFR 1.121 and MPEP 608.02. Further, in accordance with MPEP 608.02(v), Applicants respectfully submit that the drawing changes submitted herein do not require drawings marked in red.

Therefore, Applicants respectfully submit that the following descriptions of drawing changes are sufficient, and Applicants respectfully request that corrected drawing sheets, that are enclosed herewith, namely drawing sheets 8/14, 11/14, and 13/14, be entered.

CERTIFICATE OF MAILING BY EXPRESS MAIL NO. *EU 365 480 397 US*

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Wendell E. Miller, Reg. No. 26,572
Agent for Applicants

Wendell E. Miller

Signature of Person Mailing

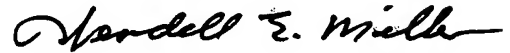
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[Sheet 8/14] Figure 13, at the base terminal of the npn bipolar transistor Q3, kindly change $-V_{DC}$ to " V_{VAR} ";

[Sheet 11/14] Figure 16, at the base terminal of the npn bipolar transistor Q3, kindly change $-V_{DC}$ to " V_{VAR} "; and

[Sheet 13/14] Figure 22, kindly delete $-\text{arrow } 10-$.

Respectfully submitted,



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Attachments:

DRAWING SHEETS 8/14, 11/14, and 13/14



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COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

Sir:

Applicants herein submit comments, in accordance with 37 CFR 1.104,
on Examiner's "Reasons for Allowance" which were included with a Notice of
Allowance of September 9, 2004. In the Notice of Allowance, Examiner
5 allowed Claims 1-25, on which only Claim 1 is an independent claim.

Examiner said, "Regarding claim 1, the closest prior art of record,
Vendelin et al (Fig. 2) does not disclose the following limitations: make an rf
effective series resistance of the capacitance lower than that of any porcelain
capacitor that resonates at the selected operating frequency."

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While Applicants agree with Examiner's reasons for allowance, Applicants respectfully submit that Examiner, in the rush of business, did not take the time to fully describe the reasons for allowance to the best of his knowledge. Therefore, it seems important that Applicants expand on the
5 reasons for allowance.

More particularly, as Applicants believe that Examiner understands, both Applicants and Vendelin et al. connect solid-state amplifying devices, such as field-effect transistors (FETs) in dc series for the purpose of using solid-state devices with power sources in which the dc voltage is too high, and for the
10 purpose of using the dc current twice.

Circuits in which solid-state amplifying devices are connected in dc series have become known as "totem-pole circuits."

Further, Applicants believe that Examiner understands that the primary problem with rf amplifiers that are built in a totem-pole configuration is rf
15 decoupling.

While the totem-pole circuit taught by Vendelin et al. will function satisfactorily at very low rf power outputs, as rf power is increased, the solid-state amplifying devices in totem-pole circuits have short and unpredictable life spans.

The present invention solves this reliability and life-span problem by making the effective series resistance (ESR) of the decoupling capacitance, between the lower voltage terminal of the upper solid-state amplifying device and an electrical ground, lower than that of any porcelain capacitor that resonates at the selected operating frequency.

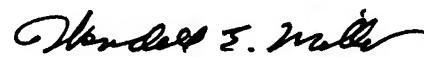
Since, at the present time, porcelain capacitors have the lowest effective resistance of any capacitor, to obtain a lower effective series resistance, the present invention uses two, or more, capacitors connected in parallel. The clearest way to recite this distinction is as recited in step "f" of Claim 1, namely: "making an rf effective series resistance of said capacitance
25 lower than that of any porcelain capacitor that resonates at said selected
30 operating frequency."

Applicants respectfully submit that Vendelin et al. do not suggest that there might be some required value for the effective serial resistance of the rf

decoupling capacitor. As far as the teaching in their patent is concerned, they might not have even known that capacitors have an effective series resistance. And, they do not even suggest that there could be a problem with rf decoupling in a totem-pole circuit.

- 5 Therefore, Applicants respectfully submit that Vendelin et al., do not even suggest that a problem might exist, and can neither anticipate nor make obvious, Applicants' solution to the problem of rf decoupling, as recited in Claim 1.

Respectfully submitted,



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